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10/694,790

10/29/2003

Thomas Eisele

3961 0255

6079

7590 03/27/2007
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EXAMINER

FRANTZ, JESSICA L

ART UNIT

PAPER NUMBER

3746

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

03/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|--|--|--|--|
| <p align="center">Office Action Summary</p> | <p>Application No.</p> <p align="center">10/694,790</p> | <p>Applicant(s)</p> <p align="center">EISELE ET AL.</p> | |
| | <p>Examiner</p> <p align="center">Jessica L. Frantz</p> | <p>Art Unit</p> <p align="center">3746</p> | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-15 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 8-10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Blatt et al. (5,277,468). Blatt et al. discloses an ejector having a driver gas at an inlet pressure, the ejector comprising: at least one primary branch (18a); a primary driver nozzle (34a) disposed within said primary branch, said primary driver nozzle having a primary driver cross-sectional narrowing (Please see figure 2); a primary receiver nozzle (36a) disposed downstream of and adjacent to said primary driver nozzle; a primary suction line (48, 52) in vacuum communication with said primary driver narrowing; at least one secondary branch (18b); a secondary driver nozzle (34b) disposed within said secondary branch, said secondary driver nozzle having a secondary driver cross-sectional narrowing (Please see Figure 2); a secondary receiver nozzle (36b) disposed downstream of and adjacent to said secondary driver nozzle; a secondary suction line (48, 52) in interruptible vacuum communication (The interruptible means is check valve 76) with said secondary driver narrowing; and a closing instrument (41b) disposed upstream of said secondary driver nozzle to connect and disconnect said secondary branch in dependence on the inlet pressure of the driver gas into the ejector. Furthermore, the closing instrument is held

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in a first position through a biasing force means, said biasing force means counteracting the inlet pressure of the driver gas. (Column 7, lines 36-58) and the closing instrument comprises a piston (58, 60) and wherein said biasing force means comprises a spring (72) that acts on said piston. Blatt et al. further teaches the closing instrument is transferred to a second position when a switching pressure is reached by the inlet pressure of the driver gas and at least one secondary branch is disconnected when the inlet pressure is lower than said switching pressure. Blatt et al. discloses an electrical control means (24) which has the ability to set desired vacuum levels that the apparatus and in doing so able to determine the number of venture arrangements open for flow. Therefore, it controls the closing instrument to move into a second position depending on desired flow conditions and the control means' preset value. (Column 10, lines 1-9).

Blatt et al. further discloses that a common driver gas feed line (25) communicating with said primary and said secondary branches, wherein said closing instrument is disposed in said feed line. (Please see Figure 1) and the primary suction line and said secondary suction line coincide (Please see Figure 4), and further comprising a check valve (76) disposed in said primary and secondary suction line between said secondary branch and said primary branch to prevent leakage of vacuum generated by said primary branch when said secondary branch is disconnected.

Furthermore, Blatt et al. discloses each nozzle branch or each group of nozzle branches is/are associated with a separate suction line. As shown in Figure 7, two venture arrangements are displayed (18a and 18b) each one having a separate suction line; arrangement 18a has suction line (48, and 52a) whereas arrangement 18b

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has suction line (48, 522b). Also, Blatt et al. discloses the secondary branch has the same suction performance as the primary branch since suction performance is largely dependent on the structure and geometry of the branches and the two branches (18a, 18b) are shown as having the same structure.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blatt et al. (5,277,468). Blatt et al. is discussed above, and while it doesn't explicitly disclose that the secondary branch has a different suction performance than the primary branch and that the secondary branch has a larger suction performance than said primary branch, it is obvious to one of ordinary skill in the art to design the second branch to handle the correct amount of over flow and in certain situations that may require a greater suction performance. Furthermore, it would have been an obvious matter of design choice to alter the suction performance of one of second branch, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Therefore, it would have been obvious to one of ordinary skill in the art to make the second branch have a different and greater suction performance than the first branch for the purpose of enhancing flow.

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5. Claims 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blatt et al. (5,277,468) in view of Hansen (3,716,307). Blatt et al. is discussed above and teaches the invention substantially as claimed. However, Blatt et al. fails to teach the check valve is a spring-loaded ball valve and that the ejector further comprises a housing wherein suction lines are bores in said housing and nozzles and valves are disposed in said housing in an exchangeable manner. Hansen teaches the check valve (46, 42) is a spring-loaded ball valve and is incorporated for the purpose of opening/closing the suction line (24) and that the ejector further comprises a housing (12, 14) wherein suction lines are bores in said housing and nozzles and valves are disposed in said housing in an exchangeable manner as shown in Figure 1, nozzle (20) along with both check valves may be inserted or removed at will of the operator from the housing structure for the purpose of having fewer moving parts and furthermore, to make the structure integral. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the invention of Blatt et al. with the spring-loaded ball check valve of Hansen for the purpose of opening/closing the suction line (24) and the housing structure of Hansen for the purpose of having fewer moving parts and furthermore, to make the structure integral.

Allowable Subject Matter

6. Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed 2/14/2007 have been fully considered but they are not persuasive. This action is therefore made FINAL.

8. Applicant contends that the Blatt '468 patent fails to teach the secondary nozzle branch has a closing member disposed upstream with respect to the driving gas flow direction, which is driven in dependence on a pressure of the driving gas flow into the injector. However, Examiner kindly point Applicant attention to column 9, lines 15-21 where the Blatt patent describes that the closing instrument 41b can incorporate an aperture 88b which houses a manual override actuator 90 that may be manually pushed to actuate the spools 58 or 60 to supply pressurized air to bypass a malfunctioning solenoid. The inlet pressure of the driving gas provides this manual force.

Conclusion

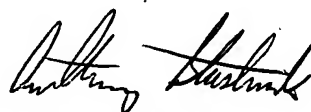
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica L. Frantz whose telephone number is 571-272-5822. The examiner can normally be reached on Monday through Friday 8:30a.m.-5:00p.m. E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on (571) 272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jessica Anantz
JF 3/20/07


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